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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,367	11/19/2003	Tatsuhiko Kagehiro	HITA.0461	3774

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EXAMINER

ALLISON, ANDRAE S

ART UNIT	PAPER NUMBER
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2624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/715,367

Applicant(s)

KAGEHIRO ET AL.

Examiner

Andrae S. Allison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on November 19, 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/02/2004 11/19/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-8, 12-20 are drawn to tracing bank notes, classified in class 382, subclass 135.
 - II. Claims 9-11, drawn to an interface for an ATM, classified in class 715, subclass 700.
2. Inventions claim 1-8, 12-20 and 9-11 are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination deposit device is used in the apparatus of claim 1, where claim 1 does not define the same details as claim 9 that has separate utility such as the deposit device is omitted from the ATM interface. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a

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continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

3. During a telephone conversation with Juan Carlos Marques on January 18, 2007 a provisional election was made **without** traverse to prosecute the invention of "System and method for tracing bank notes", application number 10/715,367 claim 1-20.

Affirmation of this election must be made by applicant in replying to this Office action.

Claims 9-11 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 7, 12-13, 15, 18 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Jones et al (Pub No.: US 2003/0059098).

As to claim 12, Jones discloses a method of tracing bank notes (track currency bills, [p][0001], lines 2-4) the method comprising: receiving a deposit of an initial bank note (insert currency bills, [p][0057], lines 3-4); extracting one or more initial images from the initial bank note (obtain image and extract data, such as serial numbers, from the image, [p][0058], lines 1-5); attaching an initial transaction log to the one or more initial images (note that a customer identification is obtain before the images are extracted so that the items being deposited can be linked to the customer, see [p][0057], lines 6-8) ; receiving one or more subsequent images of a subsequent bank note (list of stored serial numbers, [p][0058], lines 7-8); and comparing the one or more initial images to the one or more subsequent images in order to obtain a comparison result ([p][0058], lines 10-14).

As to claim 1, Jones discloses an automatic teller machine (ATM) (see Fig 1) electronically connected to one or more devices, the one or more devices comprising (see [p][0049], lines 8-10, where Fig 1 is used as a stand alone device such as an ATM): a deposit device (110, input receptacles; see Fig1) configured to receive an initial bank note; an image extraction device (140, image scanner; see Fig 1) configured to extract one or more initial images from the initial bank note; a transaction log device (140; scanner device; see Fig 1) configured to attach a transaction log to the one or more initial images, wherein the deposit device is further configured to receive a subsequent bank note, wherein the image extraction device is further configured to extract one or more subsequent images from the subsequent bank note (note that a

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customer identification is obtain before the images are extracted so that the items being deposited can be linked to the customer, see [p][0057], lines 6-8); and a comparison device (140, controller, see Fig 1) configured to compare the one or initial images to the one or more subsequent images in order to obtain a comparison result ([p][0058], lines 10-14).

As to claim 13, Jones teaches, the method wherein the comparison result indicates that the one or more initial images are within a range of similarity to the one or more subsequent images, the method further comprising retrieving the initial transaction log based on the comparison result (see [p][0083], lines 1-12, where previous stored image is retrieved if a currency bill that initial passed a counterfeit test was later determined to be counterfeit).

As to claim 15, Jones teaches the method, wherein the step of receiving one or more subsequent images comprises: receiving a deposit of a subsequent bank note; and extracting one or more subsequent images from the subsequent bank note (see [p][0057], lines 2-5, where multiple currency bills are being processed)

As to claim 18, Jones teaches the method, wherein the one or more initial images include a unique characteristic that is specific to only one bank note, wherein the initial bank note is the only one bank note with the unique characteristic, wherein the unique characteristic includes other information besides a serial number of the initial

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bank note (see [p][0053], line 10, where image quality can be use to uniquely identify a bill).

As to claim 20, Jones teaches the method of wherein the steps of the method are stored on a computer-readable medium (memory, 160, see Fig 1) as one or more instructions (software, [p][0051], line 6) for tracing bank notes, wherein the one or more instructions, when executed by one or more processors (150, see Fig 1), cause the one or more processors to perform the steps of the method.

As to claim 2, Jones teaches the automatic teller machine the one or more devices further comprising at least one of: a storage device (180, memory, see Fig 1) configured to store the one or more initial images and the transaction log;

Claim 3 differ from claim 13, only in that claim 13 is method claim whereas, claim 3 is apparatus claim. Thus, claim 4 is analyzed as previously discussed with respect to claim 13 above.

Claim 7 differ from claim 13, only in that claim 13 is method claim whereas, claim 7 is apparatus claim. Thus, claim 7 is analyzed as previously discussed with respect to claim 13 above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-6, 14 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al (Pub No.: US 2003/0059098).

As to claim 14, Jones teaches the method wherein the step of extracting one or more initial images comprises: extracting a front side initial image in a first initial position; extracting a front side initial image in a second initial position; extracting a back side initial image in a first initial position; and extracting a back side initial image in a second initial position (see 900 and 910, Fig 9 and [p][0102], lines 1-20, where two scan heads 900 and 910 are used to capture images of the front and back a currency bill). Jones does not teach extracting an image in a plurality of positions. However, it would have been obvious to extract an image in a plurality of positions to obtain an image of a currency bill in various orientations, store the images so that the images could be later retrieved and compared to a current image furthermore, the process of extracting is the same regardless of the side or part of the image.

As to claim 16, note the discussions of claim 14 above.

As to claim 17, Jones does not teach the method wherein the step of comparing comprises comparing each subsequent image in each subsequent position a plurality of times to a corresponding initial image. However, it would have been obvious to have compared each subsequent image in each subsequent position a plurality of times to a corresponding initial image so that the initial image can be compared to a subsequent image in various orientation to completely determine the authenticity of the initial bill.

Claim 4 differ from claim 14, only in that claim 14 is method claim whereas, claim 4 is apparatus claim. Thus, claim 4 is analyzed as previously discussed with respect to claim 14 above.

As to claim 5, note the discussion of claim 4 above.

Claim 6 differ from claim 17, only in that claim 17 is method claim whereas, claim 6 is apparatus claim. Thus, claim 6 is analyzed as previously discussed with respect to claim 17 above.

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5. Claims 8 and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al (Pub No.: US 2003/0059098) in view of Onishi et al (Pub No.: US 2002/0136457).

As to claim 19, Jones does not disclose expressly the method wherein the step of comparing comprises: analyzing image characteristics using a Euclid distance formula; and determining that the one or more initial images and the one or more subsequent images have a Euclid distance near zero, wherein the range of similarity includes having a Euclid distance near zero.

Onishi disclose a method for establishing correspondences between an input image and a reference image ([p][0001], lines 1-3) that includes using a Euclid distance formula (normalized correlation coefficient, [p][0045], line 1-9); and determining that the one or more initial images and the one or more subsequent images have a Euclid distance near zero, wherein the range of similarity includes having a Euclid distance near zero (see [p][0048], lines 1-8, where if the input image and the reference images are similar the normalized correlation coefficient becomes zero).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have combined the teaching of Onishi with the disclosure of Jones to find similarities between a initial bill and a stored or subsequent bill in order to determine if the initial bill is counterfeit.

Claim 8 differ from claim 19, only in that claim 18 is method claim whereas, claim 8 is apparatus claim. Thus, claim 8 is analyzed as previously discussed with respect to claim 19 above.

Conclusion

The prior art made part of the record and not relied upon is considered pertinent to applicant's disclosure.

Haycock (US Patent No.: 6,065,672) is cited to teach a method for currency management and tracking utilizing a unique standardized.

Schrader et al (US Patent No.: 5,649,115) is cited to teach a tracking method and apparatus.

Neri et al (Pub No.: 2003/0021459) is cited to teach a method of controlling banknotes.

Laskowski (Pub No.: 2003/0085271) is cited to teach an automated banking machine tracking system.

Inquires

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrae S. Allison whose telephone number is (571)

270-1052. The examiner can normally be reached on Monday-Friday, 8:00 am - 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (571) 272-7695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrae Allison

January 17, 2007

A.A.

JINGGE WU
SUPERVISORY PATENT EXAMINER

